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Contents

	Page
Israel Risking Contamination of Water Sources	1
	3
Drought Worsens Water Problem in North China	5
Climate and the West Nile Virus	7
	8
EU Biotechnology Research Proceeding Despite Controversy	10
Thailand Implements Voluntary GMO Labeling	11
Indonesia: Food Supply Rebounds	12
FRY: UNEP Releases Report on Environmental Damage from NATO Conflict	13
In Brief	15
Calendar	16

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Israel Risking Contamination of Water Sources

The persisting drought has led the government to continue pumping water from Lake Tiberias, lowering the lake's "red line" by 1 meter to 214 meters below sea level, according to press reports. Israel also will pump more water from the Coastal and Mountain Aquifers, which press reports say already may be below their "red lines."

- Israel relies on Lake Tiberias to store about one-third of its normal renewable freshwater supply of 1.5 billion cubic meters (bcm), while the Mountain Aquifer, which is under the Galilee region and the northern West Bank, supplies less than one-tenth of Israel's water.
- Under normal rainfall conditions Israel and the Palestinians overpump the Coastal Aquifer by about 80 million cubic meters (mcm) annually

In Lake Tiberias, a layer of fresh water floats on heavier saltwater. If pumping removes too much fresh water, saltwater springs at the bottom of the lake could increase their flow, permanently reducing the lake's freshwater capacity and possibly making the fresh water brackish.

Israeli experts disagree on where the "red line" for Lake Tiberias should be set. A government-appointed panel last year argued against lowering it because of the risk of salinization. Israel's top water official in September told media the lake's water quality is secure, but Environment Minister Itzik publicly attacked him for mismanagement.

Threat to Jordan, Palestinian Supply

The pumping of the lake is affecting Israel's willingness to supply Jordan with fresh water under the peace treaty signed in 1994

Israel in late October stopped pumping Lake Tiberias water to Jordan but said it would supply 1.2 million cubic meters—about a week's worth—if Jordan provides a contingency plan for coping with the drought affecting both countries.

- Israel has provided Jordan with only 35 of the 55 million cubic meters annually it agreed to supply under the 1994 peace agreement,

Jordan has access to other water supplies and presumably will be able to muddle through without a full Israeli supply. Israel might agree to temporarily supply Jordan with water from Lake Tiberias while it used imported water, but this would be contingent upon guarantees from the US and Jordan that the measure is temporary.

Because of population and economic growth, Israel next year will need 200 mcm more fresh water than the 1.6 bcm it will consume this year, according to press reports. Israel is looking for new water sources, including desalination, recycling, and importing water from Turkey. These solutions are too complex to solve Israel's water shortage in the near term. To eliminate the need to overpump during periods of drought, Israel would have to limit household water consumption through rationing or price hikes and ration water to agriculture, both of which would be politically unpopular. Water officials say that if the drought persists, agricultural consumption of water may have to be cut by as much as 80 percent.



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Drought Worsens Water Problem in North China

Northeastern China—after almost a decade of drought—is suffering the driest year in at least a century, according to CIA analysis [redacted]

A weak monsoon season has worsened already severe water shortages and contributed to a drop in agricultural output.

- Two of the largest rivers—the Yellow and Huai—have run dry, as have the Hai, the Fen, and other northern rivers, but this year they did so during the rainy season from June to September.
- Southern Henan has been particularly hard hit, with crop failures forcing local farmers to eat their seed grain and to migrate out of the region, according to official media.

The drought has spread beyond the North China Plain, a region with 64 percent of the country's arable land but only 19 percent of its water resources.

Agriculture consumes some 75 to 85 percent of the water in the most drought-prone river basins.

- Some 300 cities—almost half of China's major cities and most in the north—suffer from water shortages because of excessive water use and low levels of recycling, in addition to the drought.

Chinese scientists are predicting that if the water problem is not addressed, China will face a crisis by the middle of the next century. Beijing is well aware of the problem, but is thwarted by county and municipal water bureaus that control the resources, providing unlimited water to local agriculture at subsidized prices.

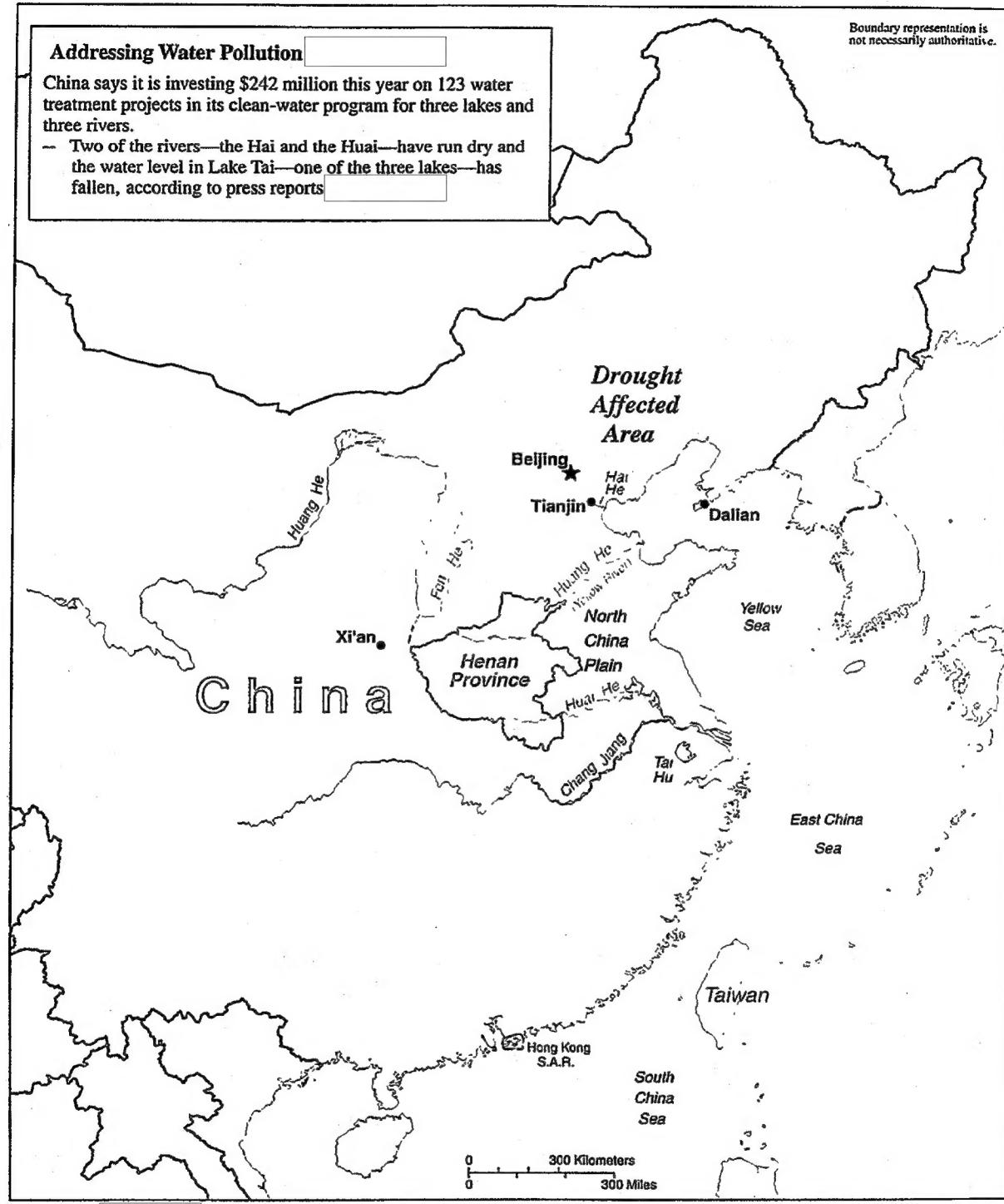
Drought in Northeastern China, October 1999

Addressing Water Pollution

China says it is investing \$242 million this year on 123 water treatment projects in its clean-water program for three lakes and three rivers.

- Two of the rivers—the Hai and the Huai—have run dry and the water level in Lake Tai—one of the three lakes—has fallen, according to press reports

Boundary representation is not necessarily authoritative.



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Climate and the West Nile Virus

We know of nothing to suggest a relationship between global climate change and the outbreak of the West Nile virus (WNV) in New York and the apparent outbreak in southern Russia. Substantial further research—outside the Intelligence Community—on the origin and propagation of the virus and on long-term climate patterns would be necessary to substantiate such a link.

Weather conditions—regardless of climate change—can influence WNV outbreaks by affecting the number or behavior patterns of its vectors. Czech scientists argue in the current issue of *Emerging Infectious Diseases*, for example, that environmental or human factors that enhance the mass breeding of mosquitoes allow the spread of the virus. They note that the several outbreaks of West Nile Fever in southern and central Europe since the 1960s occurred during the period of maximum annual activity of mosquito vectors.

- The Czech scientists caution that under some global climate change scenarios the abundance of mosquito vectors may increase in some areas.
- Complicating efforts to predict the spread of WNV or similar viruses, however, is the fact that they can be carried by several species of mosquitoes and ticks that respond differently to environmental stimuli.

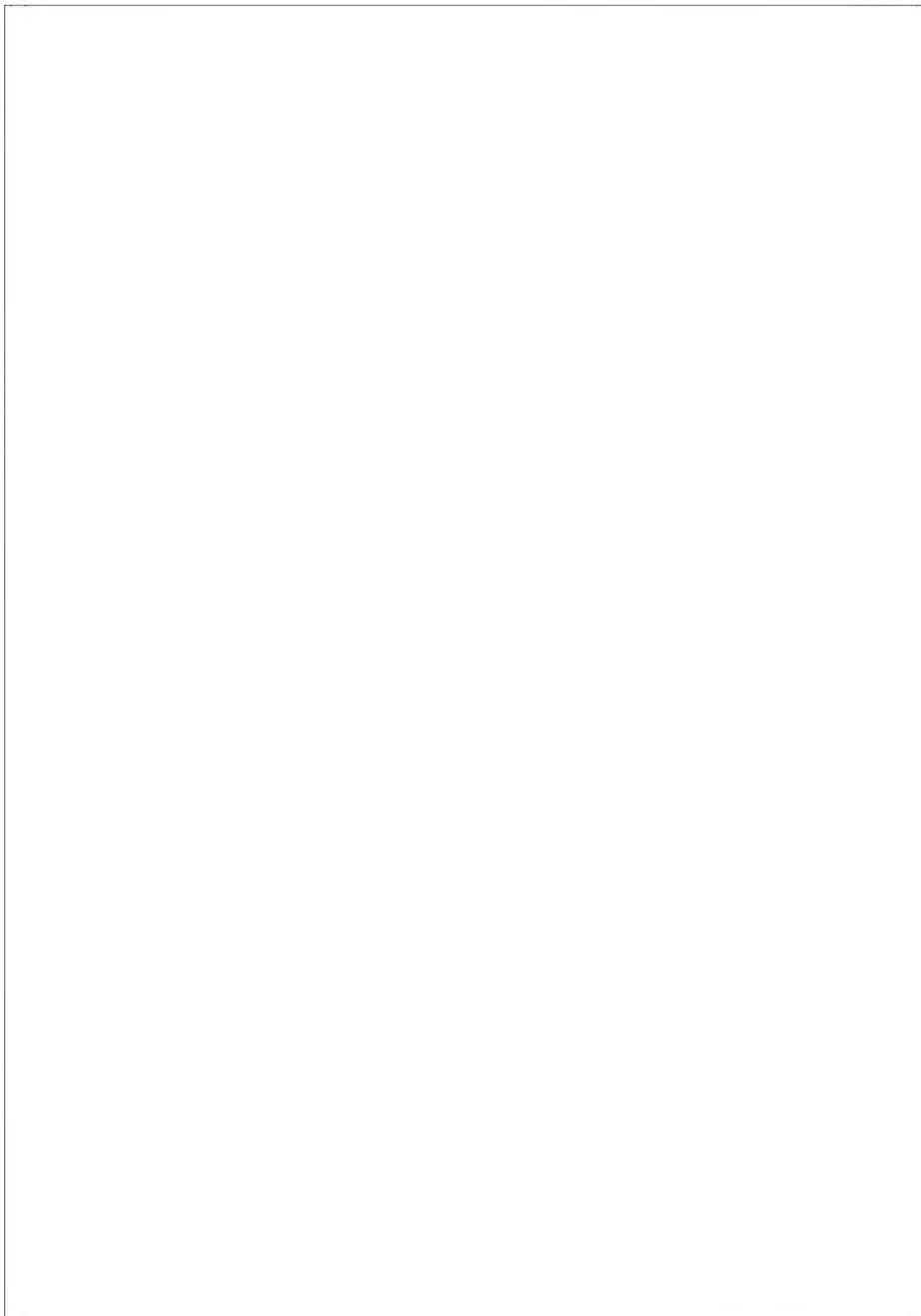
Evidence from nearby areas suggests general mosquito counts may have been lower than normal in New York City this summer (the city itself did not collect data), but experts agree that the hot, dry conditions there were conducive to the spread of WNV by its prime suspect carrier, the common household mosquito *Culex pipiens*. Similar conditions frequently have preceded major outbreaks of St. Louis encephalitis, a similar disease carried by that mosquito species.

- A warm, somewhat drier than normal summer coincided with the WNV outbreak in Romania in 1996 in which *Culex pipiens* was implicated, according to CIA analysis of weather data.
- Other species may have been involved in Volgograd oblast in southern Russia, which had a warm but slightly wetter than normal summer, and in Astrakhan oblast, which had a smaller outbreak and a slightly warm but very wet summer.

Scientists do not know whether WNV overwinters in Europe in hibernating mosquitoes or in birds or frogs or is reintroduced by birds migrating from Africa. Overwintering in temperate climates would give WNV a greater chance of becoming endemic to the US.

- Warmer weather—associated with climate change or not—could increase the probability of the virus overwintering and accelerate its spread in summer.

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Biotechnology Research in the EU Proceeding Despite Controversy

Many European biotechnology firms are suffering losses caused by the public backlash against products derived from genetically modified organisms (GMOs). Some are shifting biotechnology investments away from agriculture and into pharmaceuticals, hoping to ride out the public debate over GM foods.

- The Anglo/Swedish firm Astra Zeneca recently sold off its herbicide and fungicide division, the Swiss firm Novartis announced in August that it will lay off 1,100 workers because of the public's rejection of GMOs, and the UK firm Axis Genetics is up for sale, according to press reports.
- The Wellcome Trust in the UK—one of the world's largest charities—in September canceled plans to build a major biotech research park near Cambridge

Nonetheless, European firms are concerned that they will fall further behind the US in the biotech fields and are therefore not likely to pull out of GMO research completely. The UK's biotech sector, for example, has 270 companies and more than 35,000 employees.

- Moreover, EU biotech firms may use public resistance to GM food imports from the US—supported by increasingly restrictive EU GMO approval policies—to increase their R&D capacity in these fields.
- Most European firms have concluded that the rejection of GMO-derived foods by consumers is temporary, according to open sources, and the larger life science companies will continue to benefit from the synergy between biotech driven drug, nutrition, and agricultural product developments.

Selected EU Plant Biotechnology Research

Scottish scientists in September announced that they had modified potatoes with genes from jellyfish designed to cause the plants to bioluminesce when they need watering, according to press reports. Scottish scientists also are conducting trials on GM salmon to increase their growth rate.

- Elsewhere in Britain, The Arable Crops Research Institute has conducted numerous tests on Bt corn and GM rapeseed, and the Long Ashton Research Station is developing a strain of GM corn for disease resistance and on GM wheat to increase gluten proteins.
- Astra Zeneca is researching GM poplar trees, and Zeneca AgroChemicals in August announced that it will invest \$50 million in the biotech firm Maxgen and provide \$200 million to develop GM crops

Across the channel, the French National Science Foundation and the Ministry of Education have allocated 228 million Euros over the next four years to study human and plant genomes,

The French Agricultural Cooperative Maisadour has established a 40-60 percent joint venture with the Swiss life science group Novartis to develop varieties of GM corn.

- French farmers are testing genetically modified grapes and yeast.

Elsewhere, EU-funded Swiss researchers have developed a strain of GM rice to boost its vitamin A and iron content. The Dutch firm Florigene is testing GM roses, and researchers in Belgium are developing a GM banana that is resistant to fungal diseases.

Thailand Implements Voluntary GMO Labeling

Bangkok has established an organization for testing products and certifying them GMO free in response to growing pressure from European customers. Government officials say exports will be labeled on a case-by-case basis.

- In the past three months alone, the EU Rice Millers Association warned Thai exporters not to export GMO rice; a German importer rejected a shipment of Thai soybean products, alleging it contained GMOs; and a Dutch company delayed importing Thai canned tuna out of concern that the vegetable oil used was not GMO free.

the new organization is designed to allay European concerns and mandatory labeling requirements are not yet in the offing. Deputy Prime Minister Suphachai publicly has said Thailand will not set a uniform labeling regulation until a WTO standard is set.

Government Struggling With GMOs

The Thai Cabinet in October met in response to increasingly heated domestic debate over GMO issues. It reached no decision other than to reaffirm existing GMO policy, according to press reports.

Thailand allows importation and planting of 40 seeds and plants for research purposes only. Export labeling is based on an agreement between exporter and importer; no domestic labeling is required.

Bangkok has sought to preserve a degree of ambiguity about the extent of GMO imports used in the Thai food industry.

Thai officials generally see GMOs as the wave of the future and stress a science-based approach, and Bangkok continues to conduct biotechnology research. In the past few months, however, a flurry of alarmist articles about GMOs—reportedly written with the assistance of European NGOs—has appeared in the local media.

- Bangkok extended the testing period of Monsanto's "Bt cotton" by two years after NGOs alleged illegal planting by farmers.

Thailand is interested in biotech discussions in the WTO and other science-based forums. Bangkok is member of the Cairns Group and generally associates itself with the Miami Group—six agricultural exporters allied with the US in opposing GMO trade barriers—in negotiations over a biosafety protocol under the auspices of the UN Convention on Biological Diversity.

- Thai officials seek a rational system of rules under which its agricultural exports can grow.

A ranking Agriculture Ministry official in late October said the country cannot afford to ignore the potential of biotechnology advances to boost agricultural competitiveness. Thailand is the world's largest exporter of rice, and foodstuffs make up about 20 percent of its exports.

Indonesia: Food Supply Rebounds

Indonesia continues to recover from the food crisis suffered last year and should meet its overall food requirements through the middle of next year comfortably, according to various sources. The turnaround is attributable to bumper domestic milled rice production—32 million metric tons this year, and a yearlong decline in retail rice prices.

- The secondary rice crop, now being harvested under ideal weather conditions, will further reduce Indonesia's costly dependence on rice imports.
- Jakarta will import 3.5 million tons of rice, down from the world record level last year of 6.1 million tons.

These conditions will allow Jakarta to fortify its already comfortable 2.5-million-ton rice stocks and to continue monthly releases of 350,000 tons to the poor, to the military, and to civil servants. Jakarta is succeeding in procuring dramatically more domestic rice—2.3 million tons thus far this year as compared with 150,000 tons last year—in part by offering a 40-percent increase in the wholesale price to farmers.

- Prospects for the main rice harvest next April are good—the government is pushing an initiative to increase planted areas and fertilizer prices have fallen.

Nonetheless, distribution remains a concern. Outlying, deficit-production regions—including some that may be prone to ethnic or religious unrest—will continue to depend on BULOG—the national logistics agency—and a stable food distribution system to meet annual rice requirements.

**FRY: UNEP Releases Study of Damage from
NATO Campaign**

The much-awaited analysis submitted to the UN Secretary General in mid-October by the UN Environment Program's Balkan Task Force and subsequently released to the public states that the NATO bombing campaign did not cause a region-wide environmental catastrophe, as some early press reports had claimed. Pollution at four sites in Serbia, however, was determined to be a threat to human health.

- The task force found that a wastewater canal at the Pancevo industrial complex that flows into the Danube is seriously contaminated with 1,2-dichloroethane and mercury and could contaminate water reservoirs down river if leakage into the canal continues.
- Polychlorinated biphenyls and dioxin contamination need to be cleaned up at the Zastava automobile factory in Kragujevac, and a study is needed of whether oil has contaminated the groundwater at the Novi Sad oil refinery.
- Immediate action is needed to prevent a large release of sulfur dioxide gas from the Bor ore smelting complex.

Task Force Chairman and former Finnish Environment Minister Haavisto told media that more than half the environmental damage at these four sites had occurred before the conflict, but that bombing had accelerated leakage problems.

- Bomb damage in national parks and other protected areas was relatively minor but unexploded ordinance could cause problems, the report said.

The Belgrade official press in reporting on a 25 October press conference held by Haavisto in the Serbian capital mentioned nothing of how the report, overall, downplayed the environmental consequences of the bombing. It highlighted that the report had called on NATO to provide more information on the use of depleted uranium in its bombs and that international aid must be provided to alleviate the environmental damage.

Hungary in international forums has raised concerns about flooding this winter if debris continues to clog the Danube. Flooding depends on the severity of the winter, the flow rate of the river, and the ice management efforts by local authorities.



In Brief

New moves against Russian environmentalist

Russia's Federal Service for Currency and Export Controls in late September ruled that money transferred by a Norwegian-based environmental group to whistleblower Aleksander Nikitin's lawyers violated Russian currency regulations and invalidated Nikitin's contract with his lawyers, according to press reports.

— Nikitin's lawyers have argued that the decision is illegal and motivated by the Federal Security Service, which has led all previous official investigations against Nikitin.

Moscow's latest maneuvers against Nikitin will distract his lawyers from their efforts to dismiss the charges against him. By expanding the battle against the environmentalist, the Federal Security Service is trying to end the Norwegian group's financial and legal support for Nikitin.

US scientist investigated

Russian Federal Security Service officials in late October searched the Moscow home of a US scientist specializing in Russian nuclear and environmental issues and confiscated research materials and a computer, according to Russian press reports. These actions are consistent with Russia's assessed efforts to classify Russian environmental information and to exaggerate the threat of foreign environmental research activities on Russian territory.

Selected International Environment-Related Meetings

25 October- 5 November	Fifth Session of the Conference of Parties to the Climate Change Convention	Bonn
15-26 November	Third Session of the Conference of Parties to the UN Convention to Combat Desertification	Recife
30 November- 3 December	WTO Ministerial	Seattle
6-10 December	Fifth Conference of Parties to the Basel Convention	Basel
10-16 December	Sixth International Conference on Acid Rain Deposition	Tsukuba, Japan
24-25 January 2000	OECD Task Force on Biological Resource Centers	Paris
24-28 January	Resumed Session of the First Extraordinary Conference of Parties to the UN Convention on Biological Diversity to Finalize and Adopt a Protocol on Biosafety	Montreal
31 January- 4 February	Subsidiary Body for Scientific, Technical and Technological Advice to the Biodiversity Convention	Montreal
April	Eleventh Conference of Parties to the Convention on International in Endangered Species	Nairobi